

## Tree lighting and Holiday Reception set for Dec. 9

The Marshall Center's Christmas tree lighting and annual Holiday Reception will be Wednesday, Dec. 9. The tree lighting is set for 9 a.m. on the front lawn of Bldg. 4200, followed by the "Holiday Memories" reception from 9:30-11:30 a.m. in Bldg. 4752.

Bus shuttle service will be provided and Marshall's taxi service will be available for employees not on a direct bus route. The bus shuttle schedule to Bldg. 4752 for the reception is on page 5.

"As part of NASA's 40th anniversary celebrations, Center Director Art Stephenson will honor the Center's charter members at 10 a.m.," said Leigh Key, holiday reception chairwoman. "This year's reception will ring in the holiday season with fun and socializing for everyone here at Marshall," said Key. "Entertainment will be provided from several of our employees."

All Center employees, retirees and contractors are invited. Dress is holiday casual.

### Countdown to launch

**Orbiter:** Endeavour (OV-105)

**Mission:** STS-88

**Launch date:** Thursday, Dec. 3

**Pad:** 39-A

**Launch time:** 2:59 a.m. CST with a 5-10-minute window

**Landing:** 9:23 p.m. CST, Dec. 14

**Duration:** 11 days, 18 hours

### "Safety is everybody's business"

*Safety slogan submitted by  
M.F. Dodd, HEI*



NASA photo by Dennis Olive

### Fastrac successfully undergoes component test at Marshall

Marshall engineers successfully tested the Fastrac engine thrust chamber assembly Nov. 24 in Test Stand 116 of the East Test Area. The 150-second, full-duration firing marked the first test of the full-length nozzle, which is similar to the flight configuration of the Fastrac engine that will power the X-34 technology demonstrator.

## First U.S. International Space Station element set for launch Thursday

by Kelly McFalls  
Media Relations Office

The first U.S. International Space Station element — the Unity connecting node — is set for launch at 2:59 a.m. Thursday aboard the Space Shuttle Endeavour from Launch Pad 39-A at the Kennedy Space Center, Fla.

The Marshall Center is playing a major role in NASA's development and operation of the International Space Station. From manufacturing and testing facilities, to preparing for Space Station science research and science operations, Marshall is making significant contributions to the International Space Station Program.

Unity, built by The Boeing Company at Marshall, is a six-sided connecting

node to which all future U.S. station modules will attach. The node also underwent all preflight dynamic and structural testing at Marshall. Once the Space Station is fully constructed, Unity will serve as a habitable passageway to various parts of the station.

Helping to lighten Endeavour's load for the trip is the Shuttle's super lightweight external tank, which had its maiden voyage in June 1998.

The lightweight tank, designed to launch elements of the Space Station, also was developed at Marshall. It is the same size as the tank it replaces — but about 7,500 pounds lighter. The weight reduction is essential for launching heavy elements of the Space Station, such as the Unity node.



# Kelsey-Seybold celebrates 25 years of support to Center

**K**elsey-Seybold Clinic, Marshall's prime contractor for occupational medicine and environmental health services, recently celebrated its 25th anniversary at the Center.

Partnering with the Marshall Center since 1973, Kelsey-Seybold operates the Medical Center in Bldg. 4249. The clinic offers comprehensive occupational medical services and annual physical examinations to Marshall Center employees.

Kelsey-Seybold is managed by the Technical Information and Operations Services Office, Center Operations Directorate.

The clinic also offers Occupational Safety and Health Administration (OSHA)-required physical examinations to on-site contractors who are employed in areas where there is potential exposure to materials that may affect their health.

Walk-in clinic services are provided for civil service employees with minor illnesses and injuries, and for both civil service and contractor employees who experience job-related injuries.

As an ongoing preventive medical service, the clinic conducts a special Centerwide screening program for hypertension, supports immunization requirements for worldwide travel, and provides annual voluntary flu immunizations.

"Kelsey-Seybold's purpose here is to help the Marshall Center keep the healthiest workforce possible," said Dr. William Dye, Kelsey-Seybold medical director. "We educate employees on ways to improve and maintain their health. We offer voluntary examinations to find any problem areas of which the employee may not be aware."



NASA photo

**Sheila Cloud, director, Center Operations Directorate at the Marshall Center, left, presents a Certificate of Appreciation to Dr. William Dye, Kelsey-Seybold Clinic medical director. The clinic was recognized for its 25-year support with occupational medicine and environmental services at Marshall.**

In addition to Dye, the staff includes Dr. Taurin Lee, staff physician; nurse practitioner Janet Kiessling; occupational health nurses; and administrative support personnel.

Center emergency medical services are provided by HEMSI, a paramedic-staffed ambulance service subcontractor to Kelsey-Seybold. Also subcontracted through the clinic are environmental health services managed by AJT & Associates.

Kelsey-Seybold Clinic was founded and established in 1949 in Houston, Texas, by Dr. Mavis Kelsey and colleague Dr. William Seybold. In 1966, the clinic won the occupational medicine contract at Johnson Space Center at Houston.

Today, in addition to Marshall and Johnson, Kelsey-Seybold has a space program support contract at the Ames Research Center at Mountain View, Calif.

## London named manager of Future-X Pathfinder Program Office

**J**ohn London, former manager of the X-34 program, has been appointed manager of the new Future-X Pathfinder Program Office. Future-X Pathfinder is a new program office that will oversee the X-34 project as well as additional pathfinder projects that are selected and implemented from the Future-X NASA Research Announcement.

The office of Aero-Space Technology recently realigned the space transportation programs assigned to the Marshall Center to provide consistency in the distinction between programs and projects. The X-34 program is now considered a project under the new Future-X Pathfinder program.



John London



NASA photo by Emmett Given

## Marshall's Educator Resource Center holds open house during American Education Week

Aleese Sims, right, an ASRI employee at Marshall's Educator Resource Center, shares reference material with Bobbie McGhee, a teacher at Austin High School in Decatur, Ala., during an open house at the center Nov. 19. The Educator Resource Center, located in the U.S. Space & Rocket Center, offers science, mathematics and space technology teaching material and resources to educators.



# Candidates nominated for upcoming Exchange election

Center employees recently nominated six candidates by petition for two elective positions on the Marshall Center's NASA Exchange Council.

The employees elected will serve with one other elected member of the Council and four members appointed by the Center director. Both elected and appointed members serve two-year terms.

The candidates are Bennie Jacks, AB11; R. Brian Key, EJ44; Terry Mitchell, PP02; Iris Phillips, EL02; Mary Rutledge, CO50; and May Wales, AM01.

The Exchange Council is responsible for administering Exchange funds used for employee activities, such as dances, athletic events, recreation and other associated activities.

All NASA employees are encourage to vote. Ballots will be mailed to employees and the deadline for them to be received by the Exchange is Dec. 17.

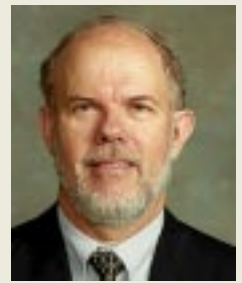
Ballots are also available in the Exchange business office, Bldg. 4752.



Bennie Jacks



R. Brian Key



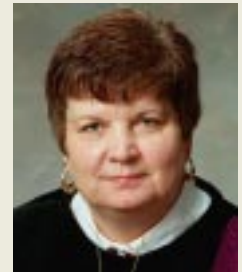
Terry Mitchell



Iris Phillips



Mary Rutledge



May Wales

## Fire prevention: The key to safer holidays at home

by Dennis Davis

Safety & Mission Assurance Office

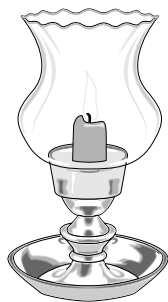
The winter holidays are a time for celebration, and that means more cooking, entertaining, and increased risk of fire.

Recently, nearly 600 fires per year have been started by ignition of Christmas trees in 510 homes in the United States. The fires caused an average of 33 deaths (all in homes), 112 injuries and \$21 million in direct property damage per year.

Decorating with candles also can be a fire hazard. An average of 6,700 home fires are caused by candles each year, with 87 associated deaths and 587 injuries. Nearly \$59 million in property damage results from candle fires every year.

The National Fire Protection Agency offers the following fire prevention tips:

■ **Holiday lighting** — Take care when burning candles. Be sure candles are placed in sturdy, non-combustible holders, and kept away from decorations and other combustible materials.



Check candles frequently to make sure they don't burn too far down or drip hot wax. Don't leave children unattended in a room with lit candles, and always keep candles, matches and lighters up high, out of the reach of children. The items should be stored in a locked cabinet. Don't display lighted candles in windows or near exits in case you need to escape. Under no circumstances is it safe to use candles to decorate Christmas trees. Keep flashlights and fresh batteries on hand to use for lighting in the event of a power outage.

■ **Holiday entertaining** — Use caution with holiday decorations. Choose decorations made of flame-retardant or non-combustible materials. When cooking for holiday visitors, remember to keep an eye on the range. Unattended cooking is the leading cause of home fires in the U.S., so "stand by your pan!" If there are smokers in your home, provide plenty of large, deep ashtrays and check them frequently. Cigarette butts can smolder and cause a trash fire, so completely douse cigarette butts with water

before discarding. After a party, always check inside and under upholstery and cushions, and inside trash cans for cigarette butts that may be smoldering. If you have young guests in your home, keep matches and lighters up high, out of their sight and reach. Ask visitors who are smokers to keep their smoking materials with them when they are visiting in your home.

■ **Christmas Trees** — Choose a fresh Christmas tree and put it in a stand designed not to tip over. Place the tree away from heat sources and exits, and water it constantly. If you purchase an artificial tree, be sure it is labeled as fire-retardant. When decorating with lights, be sure to purchase only those that bear the mark of a testing laboratory. Replace any frayed or damaged cords. For outside decorations, use only those lights labeled for outdoor use. Bring outdoor lights inside following the holidays so they are not damaged by extended exposure to harsh weather conditions. Always unplug all lights before leaving home or going to sleep and don't overload electrical outlets. Use only battery-operated lights if you have a metal Christmas tree.

## Bailey appointed director of Center Operations Management Office

William Bailey has been named director of Marshall's Center Operations Management Office, Center Operations Directorate.

Bailey began his career at the Marshall Center in 1973 as a Cooperative Education student, and in

1976 was converted to a permanent employee as a Supply Management representative in the Logistics Office.

Since joining Marshall, Bailey has served as Program Analyst and Program Analysis officer in the Information Systems Office, Business Management Office and the Comptroller's Office. He also served as chief of the Operations Office and Chief of the Personnel Compensation and Travel Office in the Office of Chief Financial Officer.

Before being selected to his current position, Bailey served as an executive management assistant in the Center Operations Management Office.



William Bailey

## Officers elected for the Marshall Association

The Marshall Association election of officers was held during a luncheon meeting Nov. 24 at the Marshall Center. The newly-elected association officials are:

**President** — David Carstens, EA02;

**Vice president for Programs** —

Lynne Lowery, CO50

**Vice president for Communications**—

Terry Mitchell, PP02

**Treasurer** — Efreem Hanson, GP32

The new officers will be installed during the association's December meeting.

# NASA technology helps Smithsonian preserve the Star-Spangled Banner

A NASA infrared camera developed to explore Mars will assist the Smithsonian Institution in its three-year project to preserve the Star-Spangled Banner.

The camera, built at NASA's Goddard Space Flight Center in Greenbelt, Md., took images last week of the historic flag in infrared light to help preservationists identify deteriorated and soiled areas not obvious to the human eye. The camera, called the Acousto-Optic Imaging Spectrometer, was developed by Dr. David Glenar at Goddard.

Considered a national treasure, the Star-Spangled Banner flew over Fort McHenry in Baltimore, Md., during the War of 1812 and inspired the words that became the U.S. national anthem. Despite receiving extra special care at the Smithsonian's National Museum of American History, the flag is deteriorating from decades of exposure to light, air pollution and temperature fluctuations.

"It gives me a feeling of great pride that a camera we developed to explore other planets is now exploring this historic artifact," said Dr. John Hillman, lead of the camera group at Goddard and NASA's representative on the Smithsonian team. "The flag has never been viewed this way before, and we will see what cannot be seen with the unaided eye. This exciting project is one of many practical applications for this imaging technology."

The Acousto-Optic Imaging Spectrometer will take 72 separate images that will be pieced together using a computer to create a mosaic of the massive flag, which is 30 feet wide and 34 feet long. Each image takes approximately 25 minutes to make and is composed of 200 infrared wavelengths, or colors.

Infrared light is invisible to the human eye, lying beyond the red end of the visible portion of the electromagnetic spectrum. A spectrometer in the camera will be used to separate the light and

reveal its component wavelengths, similar to the way a prism separates visible light into a rainbow of colors.

"Wool is the major component in the surface composition of the flag, and

contaminants found on the surface

of wool reflect infrared light

differently than wool itself,"

Hillman explained. "With the Acousto-Optic Imaging

Spectrometer, we can identify where these differences are located on the flag. We are looking for things that can't be seen easily, or at all, with the human eye, such as moisture and oils. Moisture is of particular concern because, in the presence of light, it causes a chemical reaction that deteriorates wool."

"I selected the Acousto-Optic Imaging Spectrometer because of its special ability to make an image with reflected infrared light," said Suzanne Thomassen-Krauss, chief conservator of the Star Spangled Banner Project at the museum. "A typical infrared camera relies on thermal infrared, which is light emitted by an object due to its heat, but these cameras cannot identify contaminants on the flag because they are the same temperature as the flag itself."

After the preservation effort is complete, the Star Spangled Banner will be returned to a newly renovated Flag Hall at the museum.

The Acousto-Optic Imaging Spectrometer team is developing a demonstration camera for the Mars Instrument Development Program funded by NASA Headquarters. Under this program, a camera using Acousto-Optic Imaging Spectrometer technology could be a candidate for use on robotic Mars lander missions in 2005 and beyond. The camera would be used to determine the mineral composition of Martian rocks.



## Obituaries

**Moses, O.D., 79**, Falkville, Ala., died Oct. 29. Moses retired from the Marshall Center in 1970 where he worked as an aerospace engineering technician. Moses is survived by his spouse, Marie Moses.



## Upcoming Events

### Annual Christmas Dance Dec. 5 at Von Braun Center

Marshall's annual Christmas Dance will be Dec. 5 in the Von Braun Center Exhibit Hall.

Doors will open for the semi-formal event at 6 p.m. and two bands will play continuous music from 7-11 p.m. The "Little Big Band" will play the sounds of oldies and smoothies, and the "Nite Owls" will feature rock and disco music. The bands will alternate every half hour. Non-alcoholic punch and a variety of hors d'oeuvres will be served. Cash bars also will be available.

Ticket cost for NASA employees, retirees and on-site contractors is \$6 and guest tickets are \$8. Tickets will be sold until Dec. 4 and may be purchased from 11:30 a.m.-12:30 p.m. Monday-Friday at Marshall's Activity Bldg. 4752

### All-hands meeting is Dec. 15

An all-hands meeting will be held at 8:30 a.m. Tuesday, Dec. 15, in Morris Auditorium.



NASA photo by Dennis Olive

### Members of the U.S. Attorney's Office visit Marshall

Members of the U.S. Attorney's Office for the northern district of Alabama visited the Marshall Center Nov. 20. During the visit, the group toured the International Space Station mock-up. From left are Bud Henry, 1st assistant U.S. Attorney's Office; Lee Leggett, Federal Bureau of Investigation agent, Huntsville; Doug Jones, U.S. Attorney; John Earnest, assistant U.S. Attorney; and Joe McLean, chief, Criminal Division, U.S. Attorney's Office.

## Marshall Stars at Work

**Joy Carter**, a media relations specialist with AI Signal Research, recently received a Certificate of Excellence from the Public

Relations Council of Alabama. Carter was recognized for her news release on the 1997 Great Moon Buggy Race at the Marshall Center.

**Alice Sams**, a contract specialist at the Marshall Center, is the newly elected president of the Huntsville-Madison County branch of the NAACP.

*Marshall Center employees featured in "Marshall Stars at Work" have made significant contributions to NASA and the Marshall Center by garnering significant strides in leadership and dedication to their professional and/or educational development. Any Marshall Center employee may nominate themselves or another employee. However, the Marshall Star will consider all nominations' suitability.*



NASA photo by Emmett Given

### Center celebrates National Native American Indian Heritage Month

Lee Lawrence, also known by his Native American name, Wind Dancer, right, talks with Charles Scales, Marshall's Equal Opportunity director, Nov. 18 during the Native American Intertribal Celebration at the Redstone Arsenal Recreation Center. The celebration was held as part of National Native American Indian Heritage Month in November.

### Christmas Reception shuttle schedule

One bus will be available at 9 a.m., following the tree lighting ceremony, for reception hosts and hostesses from Bldg. 4200 to the Holiday Reception in Bldg. 4752. The shuttle schedule is:

Bus #	If you work at	Catch bus at
1	4200 area	4203S, 4200
2	4250, 4249, 4481, 4471, 4485, 4723, 4728, 4727, 4712, 4705, 4707, 4708,	4250, 4481, 4471, 4485, 4728, 4705, 4708
3	4663, 4655, 4650, 4610, 4619, 4487	4663, 4650, 4610, 4619, 4487

Bus shuttle service is scheduled to begin at 9:15 a.m., with service being provided at 15-20 minute intervals. The last bus service from the Holiday Reception, Bldg. 4752, will be at noon. Taxi service also will be available for employees not on a direct bus route.

## Employee Ads

### Miscellaneous

- ★ Beanie Babies; bears, other varieties. 232-4658
- ★ 14 carat emerald and diamond ring, 18 brilliant cut diamond, 7X3.5 mm marquise diamond, \$500. 232-5552
- ★ Custom-made drapes, antique satin, lined, champagne with navy and rust trim, 91"X85," \$75. 883-1686
- ★ Unopened Scooby Doo comforter and sheet set, twin size, \$70. 773-9853
- ★ Yamaha touch-sensitive keyboard, 100-plus voices, various rhythms, MIDI/computer connector, programmable, \$400; free tabby cat. 881-4527
- ★ Shopsmith with many accessories. 971-6966
- ★ Oak stereo cabinet with glass doors and top, \$125. 232-1940
- ★ Bikes: 26" boys Schwinn 10-spd., \$50; 26" girls AMF 3-spd., \$25. 883-6284
- ★ Pro-Form Crosswalk SL, 10MPH, 2HP, 10-degree incline, upper-body workout, \$400. 883-9361
- ★ Computer, IMAC. 536-5132
- ★ Breakfast island and dining room lights; oak half mantle/cream marble for gas log unit. 232-9632
- ★ Dining room table, Bassett, pecan, three extra leaves, eight chairs, black upholstery, \$350. 895-9248
- ★ Ladies silver fox fur jacket, small, \$250; exerciser keys aeromation, \$50. 882-9417
- ★ Ethan Allen "Circa 1776" dining room table, leaves, four "bird cage" chairs, maple, \$1,800. 519-6536
- ★ Atomic ARC Extreme 170 skis, Tyrolia bindings; alpine white/purple ski boots, size 5, \$150. 828-5308

### Vehicles

- ★ 1985 Toyota Camry, 5-spd., 140K miles, \$1,000. 461-8689
- ★ 1995 Jeep Cherokee, 4-dr., alloy wheels, AC, \$9,500. 230-1274
- ★ 1996 Mazda 626, burgundy, 35K miles, CD player, \$13,000. 784-9099
- ★ 1995 silver Firebird, 350 motor, 6-spd., 72K miles, \$12,900. 232-4305
- ★ 1993 Ford Escort, 5-dr. wagon, 5-spd., 78K miles, air, AM/FM, \$4,000 obo. 461-8706

### Wanted

- ★ Ride to work, 7 or 7:30 a.m. shift, Governors Drive/Huntsville Hospital area, will pay \$6 a day. 534-5398
- ★ For Christmas: Little Tikes log cabin and/or castle, reasonably priced and in good condition. 461-4536
- ★ Drum set. 971-0048

## Center Announcements

- ☛ **Toastmasters** — The NASA Lunar Nooners Toastmasters Club will meet at 11:30 a.m., Tuesday, Dec. 8 in the Bldg. 4610 cafeteria conference room. All Marshall employees, contractors and friends are invited. **Contact:** Lee Johns, 544-5241
- ☛ **U.S. Space & Rocket Center** — "Mysteries of Egypt" is the holiday-featured IMAX film being shown in the Spacedome Theater at the U.S. Space & Rocket Center. This National Geographic adventure film, featuring Omar Sharif, explores the myths and legends of the Egyptian empire. Movie times are 5, 6, and 7 p.m. Dec. 26-30; with daily matinees at 3 p.m. Nov. 30-Jan. 3. Ticket cost is \$6 for adults and \$5 for children ages 3-12. For more information, call the U.S. Space & Rocket Center at 837-3400
- ☛ **Circus** — Ringling Bros., Barnum and Bailey will perform in Huntsville Dec. 3-6. All NASA employees, retirees and on-site contractors can receive a \$3 per-ticket discount for performances at 3:30 p.m., Saturday, Dec. 5; or 1:30 p.m. Sunday, Dec. 6. Ticket prices are \$13.50 (reg. \$16.50) or \$7.50 (reg. \$10.50) depending on seating choices. These discounted prices are only available through the NASA Exchange if a quantity of 25 tickets are purchased at one time. These seats will be assigned in blocks of 25 or more by the Von Braun Center, so early requests will receive priority. There are no further reductions for childrens tickets. Ticket orders — to include name of employee, number of desired tickets and full payment — may be placed at the NASA Exchange Office in Bldg. 4752. **Contact:** NASA Exchange at 544-7564
- ☛ **Annual Nut Sale** — Marshall is offering Center employees, on-site contractors and retirees the opportunity to purchase a variety of nuts during the annual Nut Sale from 8 a.m.-4 p.m. daily in the Activities Bldg. 4752. Available on a first-come-first-serve basis are pecans (fancy, mammoth halves) for \$5.25 per pound; chocolate-covered pecans for \$6.75 per pound; English walnuts for \$3.25 per pound; jumbo raw peanuts for \$1.75 per pound; roasted, salted (in shell) natural pistachios for \$3.25 per pound; dry-roasted cashews at \$5.25 per pound; hickory-smoked almonds at \$3 per 12 ounces; natural, whole almonds for \$3.25 per 12 ounces; and honey-roasted almonds at \$3 per 12 ounces.
- ☛ **NASA Alumni League** — The NASA Alumni League will sponsor a Christmas Party at 6:30 p.m. Dec. 10 at the Valley Hill Country Club in Huntsville. **Contact:** Ed Buckbee at 881-9622 or Norm Schlemmer at 881-2938.
- ☛ **Bookfair** — The NASA Exchange-sponsored semiannual bookfair will be from 9 a.m.-3 p.m.

Dec. 1-3 in Bldg. 4200, room G13. A wide selection of best-sellers, cookbooks, decorating, sports and children's books will be available for purchase. A new feature will be daily drawings at 11 a.m. and 2 p.m. to win a free book of your choice. Flyers with entry blanks are available in Marshall's Activities Bldg. 4752. For more information **contact** the Exchange Office at 544-7564.

- ☛ **Talent Needed** — Marshall's Holiday Reception committee is seeking individuals to provide entertainment during the reception Wednesday Dec. 9. Interested persons should contact Leigh Key at 544-5567 or Kim Whitson at 544-0866 by 4:30 p.m. today.
- ☛ **MARS Fishing Club** — The MARS Fishing Club's "Live Bait" tournament was held Nov. 14 at the Safety Harbor ramp on Wilson Lake. First place went to John Harbison and Mike Van Hooser with four fish weighing 6.95 pounds; second place went to Brian Mitchell with three fish weighing 5.68 pounds; and third place went to "Big Fish" honoree Ross Evans with one fish weighing 2.5 pounds. The club's year end event is the Sauger Tournament Dec. 12 at Ditto Landing. This is a "live bait"/buddy tournament. **Contact:** John Pea at 544-8437, Don McQueen at 544-9073 or Charlie Nola at 544-6367.
- ☛ **Emergency Warning System Test** — The monthly test of the Emergency Warning System at Marshall is scheduled for 3 p.m. Thursday. This is an audio test only, and employees should not evacuate to protective areas. If severe weather is occurring at this time, the test will be rescheduled to a later date. Safety coordinators and monitors should send reports of malfunctioning speakers to: AB11/Emergency Preparedness Officer at 544-5187 as soon as possible.
- ☛ **Volunteers needed** — As a spin-off of the Combined Federal Campaign at Marshall, NASA employees may volunteer as a host or hostess in a Southern Living custom home. Proceeds will benefit Hospice Family Care Programs. The home, located in Madison's Cliff Cove Community, will be open to the public from Dec. 8-Feb. 7. Volunteers are needed for the following shifts: 9:45 a.m.-1:15 p.m. or 1-4:45 p.m. **Contact:** Volunteer Center at 539-7797

## Job Opportunities

**CPP 99-7-CP, Configuration Management Specialist, GS-301-7, S&E, Systems Analysis & Integration Lab., Configuration Management Division, Project Support Branch.** Closes Dec. 3.  
**CPP 99-8-JB, Contract Specialist, GS-1102-5, Procurement Office, Research and Development Support Division.** Closes Dec. 11.

# MARSHALL STAR

Marshall Space Flight Center, Alabama 35812  
(256) 544-0030

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Director of Internal Relations  
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Managing Editor — Angela D. Storey  
Writer-Editor — Ann Marie Bryk

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